

## SPEECH RECOGNITION USING POLYNOMIAL EXPANSION AND HIDDEN MARKOV MODELS

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### Abstract of the Disclosure

A speech recognition system (10) having a sampler block (12) and a feature extractor block (14) for extracting time domain and spectral domain parameters from a spoken input speech into a feature vector. A polynomial expansion block (16) generates polynomial coefficients from the feature vector. A correlator block (20), a sequence vector block (22), an HMM table (24) and a Veterbi block (26) perform the actual speech recognition based on the speech units stored in a speech unit table (18) and the HMM word models stored in the HMM table (24). The HMM word model that produces the highest probability is determined to be the word that was spoken.